Received: March 23, 2018

IURC 30-Day Filing No.: 50124

Indiana Utility Regulatory Commission

March 23, 2018

Mary Becerra
Secretary of the Commission
Indiana Utility Regulatory Commission
101 West Washington Street, Suite 1500 E
Indianapolis, Indiana 46204
mbecerra@urc.in.gov
Electronically delivered

RE: Vectren's 30-day filing on February 28, IURC 30-Day Filing No. 50124.

Objection to Vectren Energy Delivery of Indiana 30-Day Filing on behalf of Citizens Action Coalition and the Environmental Law & Policy Center

Pursuant to the guidelines for submitting an objection to a 30-day filing as outlined on the Commission's website at https://www.in.gov/iurc/2519.htm, Citizens Action Coalition ("CAC") and the Environmental Law & Policy Center ("ELPC") (collectively "Objectors") respectfully submit this Objection to the 30-day filing made by Vectren Energy Delivery of Indiana ("Vectren") on February 28, 2018, IURC 30-Day Filing No. 50124. Vectren's 30-day filing is attached as Exhibit A.

Vectren's 30-day filing concerns its obligations under the Public Utility Regulatory Policies Act ("PURPA"), including PURPA's implementing regulations and Indiana's PURPA implementation. *See generally* 18 CFR § 292.101, *et seq.*; Burns Ind. Code Ann. § 8-1-2.4-1, *et seq.*; 170 IAC 4-4.1-1 *et seq.* PURPA requires electric utilities to purchase energy and capacity from qualifying facilities ("QFs"), and the rate for these mandatory purchases are based on the utility's avoided costs. *See* 18 C.F.R. §§ 292.303, 292.304.

An objection is valid if it alleges that a 30-day filing is in violation of applicable law or the filing is incomplete. See 170 IAC 1-6-7(b)(2)(A)(i), (b)(2)(C)(i). Vectren's 30-day filing violates applicable law by failing to include a standard contract as required by 170 IAC 4-4.1-11 and by failing to include avoided cost information required by 18 C.F.R. § 292.302(b). The failure to provide this legally required information violates applicable law and constitutes an incomplete filing.

Vectren's failure to provide a long-term standard contract with a fixed-rate inhibits development of QFs in Indiana and violates the state's policy to "encourage the development of alternate energy production facilities." Burns Ind. Code Ann. § 8-1-2.4-1. Increased QF development would introduce additional competition into Indiana's market by enabling private QF development at the utility's own avoided costs. Thus, PURPA is not a "subsidy" program for renewable energy. Instead, it is a cost-neutral policy that protects ratepayers by creating downward pressure on utility costs.

ELPC and CAC respectfully request that the Commission deny Vectren's 30-day filing and open a statewide docket to investigate and establish modernized PURPA implementation

methodologies that will enable Indiana utilities to comply with state and federal law.

BACKGROUND ON OBJECTORS

CAC is a 501(c)(4) membership organization of organizations and more than 40,000 individual members and contributors throughout the State of Indiana. CAC initiates, facilitates, and coordinates citizen action directed at improving the quality of life of all Indiana residents through principled advocacy of public policies that, among other things, promote government accountability and protect consumers and ratepayers. CAC and its members have an interest in promoting the development and availability of renewable energy through implementation of PURPA and are likely to suffer an injury if Vectren does not comply with its obligations under PURPA.

ELPC is a 501(c)(3) public interest organization that works to achieve cleaner air and water, promote renewable energy and energy efficiency resources, and preserve natural resources in Indiana and the Midwest. ELPC has an office located in Indianapolis and has members throughout the state of Indiana and the Midwest. On behalf of itself and its members, ELPC played a significant role in recent proceedings in Michigan, Iowa, and Minnesota where those states updated their implementation of PURPA. ELPC and its members have an interest in promoting the development and availability of renewable energy through implementation of PURPA and are likely to suffer an injury if Vectren does not comply with its obligations under PURPA.

BACKGROUND ON PURPA

Congress enacted PURPA to "encourage the development of cogeneration and small power production facilities." *Am. Paper Inst. v. Am. Elec. Power Serv. Corp.*, 461 U.S. 402, 405 (1983). PURPA combats an inefficient preference for utility self-generation and removes barriers for non-utility generation where such generation is cost-effective, thereby increasing competition and creating a downward pressure on power generation costs. *See In re Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities*, 75 F.E.R.C. P61,080, at § III.C (1996) ("Congress recognized that the rising costs and decreasing efficiencies of utility-owned generating facilities were increasing rates and harming the economy as a whole."); *see also FERC v. Mississippi*, 456 U.S. 742, 750-751 (1982).

Accordingly, Indiana's PURPA policy implementation is "to encourage the development of alternate energy production facilities, cogeneration facilities, and small hydro facilities in order to conserve our finite and expensive energy resources and to provide for their most efficient utilization." Burns Ind. Code Ann. § 8-1-2.4-1. Indiana's implementation contains positive requirements that could encourage QF development, such as requiring long-term contracts and the establishment of standard contracts. *See* Burns Ind. Code Ann. § 8-1-2.4-4(a); 170 IAC 4-4.1-11. However, as will be shown below, utilities in Indiana are not complying with such requirements, and therefore Indiana utilities are falling short of the state's explicit policy to "encourage the development of alternate energy production facilities."

PURPA is the only federal law that requires competition in states that have not restructured their electricity markets. PURPA accomplishes this through its mandatory purchase

obligation that ties the rates for purchase to a utility's avoided cost. Tying rates to avoided costs (1) ensures no subsidization occurs, (2) protects ratepayer interests, and (3) provides ratepayers the benefit of low-cost renewable generation.

State regulators and stakeholders are increasingly focused on PURPA in light of the dramatic reduction in renewable energy development costs. With the growing relevance of PURPA, other states are updating their implementation for the first time in over two decades. For instance, the Michigan Public Service Commission ("MPSC") has been conducting a process to update its PURPA implementation. Beginning in late 2015, the MPSC ordered the creation of a working group to investigate the state's implementation of PURPA and invited all utilities, developers, and other interested stakeholders to participate.¹

In 2016, the investigation culminated in the MPSC's Staff publishing a report detailing the state's implementation with recommendations on how the MPSC could modernize its PURPA implementation.² The MPSC then instituted dockets for each regulated utility to modernize its PURPA implementation and to determine, among other things, (1) the appropriate avoided cost methodology, (2) adequate term length for standard contracts, and (3) adequate procedures to encourage development of QFs.³ The MPSC ordered Michigan utilities to offer long-term contracts, and concluded that QF development could benefit ratepayers in several ways, such as offsetting or deferring the construction of large utility power plants. As the Commission recognized, "there is significant ratepayer value in deferring large, capacity additions through contracting with QFs for incremental capacity."

ELPC played a key role in Michigan's update as an active participant in the investigation and as an intervenor in the subsequent dockets opened for each utility. ELPC has also participated as an intervenor in Iowa's 2017 update to its PURPA implementation⁵ and as intervenors in an ongoing complaint case between a QF and utility in Minnesota, which could result in Minnesota updating its PURPA implementation for the first time in over a decade.⁶ ELPC and CAC respectfully request that the Commission deny Vectren's 30-day filing and follow the lead of other Midwestern states to ensure that Indiana utilities are in full compliance with state and federal law.

-

¹ See generally In re, on the Commission's own motion, commencing an investigation into the continuing appropriateness of the Commission's current regulatory implementation of the Public Utility Regulatory Policies Act of 1978, Case No. U-17973, Order Commencing Investigation (Oct. 27, 2015) available at https://perma.cc/4ZVM-XFVD.

² *Id.*, PURPA TECHNICAL ADVISORY COMMITTEE, Report on the Continued Appropriateness of the Commission's Implementation of PURPA (April 8, 2016) *available at* https://perma.cc/7JFL-HWEK.

³ See generally In re Consumers Energy Co., et al., Case Nos. U-18089, U-18090, U-18091, U-18092, U-18093, U-18094, U-18095, Order (May 3, 2016) available at https://perma.cc/B739-R7B5.

⁴ In re Consumers Energy Co., Case No. U-18090, Order at 18, (Mich. Pub. Serv. Comm'n May 31, 2017) available at https://perma.cc/4K2Z-5WWW.

⁵ See generally In re Interstate Power and Light Co., Docket No. TF-2016-0290 (Iowa Util. Bd.); In re MidAmerican Energy Co., Docket No. TF-2016-0294 (Iowa Util. Bd.).

⁶ See generally Red Lake Falls Community Hybrid, LLC v. Otter Tail Power Co., Docket No. 16-1021 (Minn. Pub. Util. Comm'n).

OBJECTIONS

<u>OBJECTION ONE</u>: Vectren's 30-Day Filing Fails to Contain a Long-Term Contract and Contract Term Length, Both of Which are Required by Indiana Law.

There are three requirements applicable to the standard contracts required in Indiana. First, Indiana law requires electric utilities to enter into "long term" contracts for the purchase of energy and capacity by PURPA QFs. Burns Ind. Code Ann. § 8-1-2.4-4(a). Second, Indiana's PURPA regulations require electric utilities to file a standard contract that must include "[t]he term of the contract." 170 IAC 4-4.1-11(c)(1). Third, federal law requires that long-term contracts include the ability to obtain fixed rates. 18 C.F.R. § 292.304(d)(2)(ii); see also Winding Creek Solar LLC v. Peevey, No. 13-04934, 2017 WL 6040012, at *9 (N.D. Cal. 2017) (finding that a standard contract violates PURPA if it fails to contain an option to obtain fixed rates). "[S]tate regulatory authorities cannot preclude a QF — even an intermittent QF — from obtaining a legally enforceable obligation with a forecasted avoided cost rate." Windham Solar LLC and Allco Finance Limited, 157 F.E.R.C. P61,134, at ¶ 6 (2016).

Vectren's 30-day filing fails to contain a standard contract, as required by 170 IAC 4-4.1-11. In contrast, Duke Energy Indiana has filed its standard contract every year since 2013. In addition, Counsel for Objectors used reasonable efforts to locate Vectren's standard contract but was unsuccessful. Counsel for Objectors:

- (1) Searched on Vectren's website, including through Vectren's rate book published online, but was unable to find the standard contract on Vectren's website;
- (2) Reviewed all of Vectren's 30-day PURPA filings dating back to 2009, which the Commission archived on its website, ⁸ but Vectren has not filed a standard contract in any of its 30-day filings dating back to 2009; and
- (3) Contacted Vectren through the contact information on its 30-day filing, but the representative was unsure whether such a standard contract existed and informed Counsel for Objectors that someone would follow up. As of the date of this Objection, no one has followed up and provided a standard contract.

The lack of a long-term, fixed rate standard contract has likely discouraged developers from pursuing projects in Indiana. Vectren's currently effective PURPA tariff references the possibility of a contract, but nowhere in the tariff does it indicate what the term of such a contract would be and there is no indication of whether the rate is fixed over a term or whether a longer term standard contracts exists. *See generally* Exhibit B.

The lack of a legally required, long-term contract with fixed rates in Vectren's 30-day filing is important because the lack of long-term, fixed-rate contracts both violates the specific requirements of Indiana law *and* inhibits the development of QFs across Indiana, thus failing to promote Indiana's policy of encouraging QF development. *See* Burns Ind. Code Ann. § 8-1-2.4-1. The Federal Energy Regulatory Commission ("FERC"), the agency delegated authority to promulgate federal regulations and enforce PURPA, recognized that long-term contracts with

⁷ See IURC 30-Day Filing Nos. 50119 (2018), 50038 (2017), 3429 (2016), 3319 (2015), 3225 (2014), 3141 (2013).

⁸ 30-day filings from 2009 to 2018 can be found at: https://www.in.gov/iurc/2514.htm

QFs must be "long enough to allow QFs reasonable opportunities to attract capital from potential investors." Windham Solar LLC and Allco Finance Limited, 157 F.E.R.C. P61,134, at ¶ 8 (2016).

Other states recognize the link between the availability of long-term, fixed-rate contracts and the encouragement of QF development. For instance, during Michigan's recent update to its PURPA implementation, the MPSC required utilities to offer 20-year standard contracts because it "found persuasive the claim that longer contracts would benefit both QFs and the [utility] by allowing better access to investment and financing. . . " The Oregon Public Utility Commission ("OPUC"), in setting standard contract terms at 20 years, concluded that such a term length was necessary "to ensure the terms of the standard contract facilitate appropriate financing for a QF project." The Wyoming Public Service Commission concluded that long-term standard contracts are necessary for financing and that 20-year contract terms are "adequate for obtaining a QF project financing."¹¹

Short-term contracts do not encourage QF development because short-term contracts make financing QFs prohibitively difficult. To illustrate, compare the number of PacifiCorp's QF contracts in Washington, which has 5-year terms ¹², to other states in which PacifiCorp operates. In Oregon and Wyoming where 20-year contract terms are required, PacifiCorp has twentyeight QF contracts and eight QF contracts, respectively. 13 In Utah where 15-year contract terms are required, PacifiCorp has twenty-six QF contracts. 14 In contrast, the company has only three QF contracts in Washington, which again only allows for 5-year terms in its standard contract. 15

Long-term contracts are vitally important to promoting QF development and furthering the policy goals of PURPA. Vectren's failure to include a standard contract renders its 30-day filing in violation of applicable Indiana law requiring long-term standard contracts and a defined term length. Burns Ind. Code Ann. § 8-1-2.4-4(a); 170 IAC 4-4.1-11(c)(1).

OBJECTION TWO: Vectren's 30-Day Filing Fails to Contain Avoided Cost Information Required by 18 C.F.R. § 292.302(b).

Federal regulations require electric utilities to biennially file three categories of avoided cost information with the Commission and utilities must maintain this information for "public

⁹ In re Consumers Energy Co., Case No. U-18090, Order at 22-23, (Mich. Pub. Serv. Comm'n May 31, 2017) available at https://perma.cc/4K2Z-5WWW.

10 In re Investigation Relating to Electric Utility Purchases from QFs, OPUC Docket No. UM 1129, Order No. 05-

⁵⁸⁴ at 19 (Ore. Pub. Util. Comm'n May 13, 2005) available at https://perma.cc/C5YX-R3GG. In 2014, the OPUC reaffirmed the 20-year standard contract term length. In re Investigation into OF Contracting, OPUC Docket No. UM 1610, Order No. 14-058 (Feb. 24, 2014) available at https://perma.cc/HL76-YJUG.

¹¹ In re the Application of RMP to Implement a Permanent Avoided Cost Methodology for Customers that do Not Oualify for Tariff Schedule 37 - Avoided Cost Purchases from OFs, WPSC Docket No. 20000-388-EA-11, Record No. 12750, Order No. 20416 at 19 (Wyo. Pub. Serv. Comm'n Nov. 4, 2011) available at https://perma.cc/EC8Q-FE4L.

¹² See PacifiCorp, dba Pacific Power & Light Co., Schedule 37, Sheet No. 37.2 available at https://perma.cc/97YD-

¹³ See PacifiCorp 2017 Integrated Resource Plan at 78-79, available at https://perma.cc/2JVR-U7SQ. ¹⁴ *Id*. ¹⁵ *Id*.

inspection." 18 C.F.R. 292.302(b). First, utilities are required to submit 5-year estimates of their avoided energy costs. § 292.302(b)(1). Second, utilities are required to submit planned capacity additions over the next 10 years. § 292.302(b)(2). Third, utilities are required to submit the cost estimates for such capacity additions. § 292.302(b)(3).

Vectren's 30-day filing at issue in this Objection does not contain the avoided cost information required by 18 C.F.R. § 292.302, and neither does Vectren's 2017 30-day filing, IURC 30-Day Filing No. 50034. In contrast, Indiana Michigan Power Company has filed the information required by 18 C.F.R. § 292.302(b)(1) in the last two years ¹⁶—but they too have not filed the information required by 292.302(b)(2) or (b)(3) in compliance with the biennial requirement.

In addition, Objectors are not aware of Vectren filing this required avoided cost information with the Commission in any other docket. Therefore, Vectren's 30-day filing at issue in this docket fails to comply with applicable federal law by not containing the required biennial avoided cost information.

CONCLUSION

Objectors respectfully request the Commission:

- (1) Find that this Objection complies with 170 IAC 1-6-7, and that Vectren's 30-day filing, IURC 30-Day Filing No. 50124, not be presented to the full Commission for consideration under the 30-day administrative filing rule until these deficiencies are rectified;
- (2) Require Vectren to file a standard contract with a defined term of sufficient length and the ability to fix rates over the term of the contract;
- (3) Open a statewide docket to investigate PURPA implementation in Indiana. This investigation could examine and establish sufficient standard contract term lengths, whether the current avoided cost methodology adequately represents Vectren's avoided costs, and any other issues the Commission deems desirable.

Respectfully submitted, Dated March 23, 2018

Johnifer A. Washburn, Atty. No. 30462-49

1915 W. 18th Street, Suite C

Indianapolis, Indiana 46202

(317) 735-7764

jwashburn@citact.org

Jeffrey Hammons

6

¹⁶ See IURC 30-Day Filing Nos. 50125 (2018) and 50037 (2017).

Staff Attorney Environmental Law & Policy Center Chicago, IL 60657 (312) 795-3717 JHammons@elpc.org



Received: February 28, 2018 IURC 30-Day Filing No.: 50124

Indiana Utility Regulatory Commission

Vectren Corporation One Vectren Square Evansville, IN 47708

February 28, 2018

Mary M. Becerra Secretary to the Commission Indiana Utility Regulatory Commission **PNC Center** 101 W. Washington Street, Suite 1500 East Indianapolis, IN 46204

RE: Southern Indiana Gas and Electric Company (SIGECO) 30-Day Filing for Rate CSP

Dear Ms. Becerra:

This filing is being made on behalf of Southern Indiana Gas and Electric Company d/b/a Vectren Energy Delivery of Indiana, Inc. ("Company") under the Commission's Thirty-Day Administrative Filing Procedures and Guidelines ("Guidelines") in compliance with Commission's Rules and Regulations with respect to Cogeneration and Alternative Energy Production Facilities. Enclosed is the proposed tariff sheet covering rates for purchase of energy and capacity as required by 170 IAC 4-4.1-8, 170 IAC 4-4.1-9, and 170 IAC 4-4.1-10, and the supporting data for the rates and rate filing as required by 170 IAC 4-4.1-4.

The Company's filing is an allowable filing under 170 IAC 1-6-3 because the proposal is a filing for which the Commission has already approved or accepted the procedure for the change.

The Company affirms a legal notice regarding this filing in the form attached hereto has been published in the Evansville Courier & Press, a newspaper of general circulation in Vanderburgh County that has a circulation encompassing the highest number of the Company's customers affected by the filing. The legal notice was published in the February 27, 2018 edition of the Evansville Courier & Press but the verified proof was not received by the February 28, 2018 CSP filing date. The Company also affirms that the notice has been posted on its website. The Company does not have a local customer service office in which to post the notice.

Any questions concerning this submission should be directed to J. Cas Swiz by using the following contact information:

J. Cas Swiz Director, Rates and Regulatory Analysis One Vectren Square 211 N.W. Riverside Drive

Evansville, IN 47708

Tel.: 812.491.4033 Fax: 812.491.4138

Email: jcswiz@vectren.com

Sincerely,

Matt McDowell

Senior Regulatory Analyst

Enclosures

cc: William Fine

Indiana Office of Utility Consumer Counselor (w/ encl.)

VERIFICATION

The undersigned, J. Cas Swiz, being duly sworn, under penalty of perjury affirms that the affected customers of the Southern Indiana Gas and Electric Company d/b/a Vectren Energy Delivery of Indiana, Inc. Rate CSP filing have been notified by publication in the *Evansville Courier & Press*, as required by 170 IAC 1-6-6. A copy of said legal notice of publication is enclosed.

J. Cas Swiz

Sheet No. 79 Seventh Revised Page 2 of 4 Cancels Sixth Revised Page 2 of 4

RATE CSP COGENERATION AND SMALL POWER PRODUCTION

(Continued)

Capacity Component

There shall be demand credit paid to qualifying facilities who can enter into a contract with Company to provide firm capacity for specified term. Capacity payments are expressed on a dollars per Kilowatt per month basis in Table 1 of this schedule.

The monthly capacity payment shall be adjusted by the following factor:

$$F = \underline{Ep}$$
 (K) (Tp)

Where:

F = Capacity payment adjustment factor

Ep = Kilowatt-hours delivered to Company by the qualifying facility during the peak period defined as the hours of 6:00 A.M. to 10:00 P.M. during weekdays, excluding holidays.

K = Kilowatts of capacity the qualifying facility contracts to provide.

Tp = Number of hours in the peak period.

Company and a qualifying facility may negotiate a rate for energy or capacity which differs from the filed Rate CSP.

Table 1

ENERGY PAYMENT TO A QUALIFYING FACILITY (1)

Annual On-Peak = \$0.03395/kWh Annual Off-Peak = \$0.02559/kWh

CAPACITY PAYMENT TO A QUALIFYING FACILITY

\$3.88 per kW Per Month

On-Peak hours = 6:00 A.M.— 10:00 P.M. weekdays
Off-Peak hours = All other hours, including weekends and designated holidays

Sheet No. 79
SixthSeventh Revised Page 2 of 4
Cancels FifthSixth Revised Page 2 of 4

RATE CSP COGENERATION AND SMALL POWER PRODUCTION

(Continued)

Capacity Component

There shall be demand credit paid to qualifying facilities who can enter into a contract with Company to provide firm capacity for specified term. Capacity payments are expressed on a dollars per Kilowatt per month basis in Table 1 of this schedule.

The monthly capacity payment shall be adjusted by the following factor:

$$F = \underline{Ep}$$
 (K) (Tp)

Where:

F = Capacity payment adjustment factor

Ep = Kilowatt-hours delivered to Company by the qualifying facility during the peak period defined as the hours of 6:00 A.M. to 10:00 P.M. during weekdays, excluding holidays.

K = Kilowatts of capacity the qualifying facility contracts to provide.

Tp = Number of hours in the peak period.

Company and a qualifying facility may negotiate a rate for energy or capacity which differs from the filed Rate CSP.

Table 1

ENERGY PAYMENT TO A QUALIFYING FACILITY (1)

Annual On-Peak = $$0.0\frac{3321}{3395}$ /kWh Annual Off-Peak = $$0.0\frac{2328}{2559}$ /kWh

CAPACITY PAYMENT TO A QUALIFYING FACILITY

\$43.0988 per kW Per Month

On-Peak hours = 6:00 A.M.– 10:00 P.M. weekdays
Off-Peak hours = All other hours, including weekends and designated holidays

Effective: April 6, 2017

CALCULATION OF PRESENT VALUE OF CARRYING CHARGES YEAR 2018

Formulas:

Carrying Charge = cc, cc = r + d + I + P + T, where $T = Income\ Tax$, and T = (t/l - t)(r + d - D)(r - bL)/r

Inputs:

r	=	Cost of Capital	=	7.96%
d	=	Sinking fund depreciation rate [$(r) / ((1 + r)^n - 1)$]	=	0.89%
n	=	Service life (years)	=	30
I	=	Insurance cost rate (\$945,688 ÷ \$2,826,000,404)	=	0.03%
P	=	Property tax rate (\$8,161,539 ÷ \$2,826,000,404)	=	0.29%
D	=	Book depreciation rate (30 year life - per EPRI "TAG")	=	3.33%
t	=	Income tax rate (composite) (21% Federal, 5.875% State)	=	25.6413%
b	=	Debt interest cost rate	=	4.81%
L	=	Debt capital structure ratio	=	43.56%

Carrying Charge

T = 1.40%

cc = 10.57% (r + d + l + P + T)

CALCULATION OF COGENERATION RATE FOR PURCHASE OF CAPACITY YEAR 2018

Formula per 170 IAC 4-4.1-9:

$$C = \frac{1}{12} \left[DV \left[\frac{1 - \frac{1 + ip}{1 + r}}{1 - \left(\frac{1 + ip}{1 + r}\right)^{n}} \right] (1 + ip)^{t-1} + O\left(\frac{1 + io}{1 + r}\right) (1 + io)^{t-1} \right] \div \left(1 - \frac{L}{2}\right)$$

$$Ca = C(((1+ip) \div (1+r))^{(Yi-Yc)})$$

Inputs:

D =
$$(cc) \frac{(1+r)^n - 1}{(r)(1+r)^n} = (cc) * 11.6365 = 1.2300$$

cc = 10.57% (See Carrying Charge calculation)

V = \$732/kW (See Burns & McDonnell Technical Assessment –Prototypes – Alternative Technology Options, (including gas pipeline work and excl. AFUDC) inflated to 2021.

ip = 6.7% (Growth Rate in Handy Whitman Cost Index for Gas Turbogenerators)

io = 2.0% (Growth Rate in Producer Price Index for Finished Goods)

r = 7.96% (See Cost of New Capital)

O = \$12.29 / kW (Estimated Operating Cost for 2021)

L = 4.85% (2016 FERC Form 1 data) (286,440 ÷ 5,910,227)

t = 1

n = 30 years (EPRI - TAG 1993)

Yi = 2021 (In service date of turbine)

Yc = 2018 (Current Year)

Rate:

C = Unadjusted Capacity Payment = \$4.01 per kW per month for year 2021

Ca = Adjusted Capacity Payment = \$3.88 per kW per month for year 2018

ESTIMATED CAPACITY CAPITAL COST YEAR 2018

Basis of Cost

Based on SIGECO generic 220 MW simple cycle turbine.

Capacity Cost

Cost per kW (2021 \$)

=\$732/kW

CALCULATIONS OF COGENERATION RATE FOR PURCHASE OF ENERGY YEAR 2018

Basis of Calculation:

The system's energy cost was derived utilizing a simple average of two separate LMP forecasts provided by the 2016 IRP Model.

Energy Rate:

Values from dispatch model:

Annual On-Peak avoided cost (1) = \$0.03312 /kWh Annual Off-Peak avoided cost = \$0.02497 /kWh

Adjustment for losses (2)

 $\frac{1}{(1 - (0.048465/2))} = 1.02483$

Adjusted Energy Rates

Annual On-Peak avoided cost = \$0.03395 /kWh Annual Off-Peak avoided cost = \$0.02559 /kWh

Notes:

- On-Peak hours = 6 am 10 pm, weekdays
 Off-Peak hours = All other hours, including weekends and designated holidays
- (2) Energy losses from 2016 FERC Form 1, page 401a.

CALCULATION OF COST OF NEW CAPITAL YEAR 2018

<u>Item</u>	Capital Structure (1)	Cost Rate (1)	Composite Rate
Debt	43.56%	4.81%	2.09%
Preferred Stock	0.00%	0.00%	0.00%
Common Equity	<u>56.44%</u>	10.40%	<u>5.87%</u>
	100.00%		7.96%

Notes: ⁽¹⁾ Capital structure and cost rates as of December 31, 2017. Common equity cost rate from Order in Cause No. 43839, page 32.

Southern Indiana Gas & Electric Company

Weighted Cost of Capital Year 2018

Item	Capital Structure	Cost Rate	Composite Cost	
Debt	43.56%	4.81%	2.09%	Balance 12-31-17
Preferred Stock	0.00%	0.00%	0.00%	Balance 12-31-17
Common Equity	56.44%	10.40%	5.87%	Rate Per Order in Cause No. 43839
	100.00%		7.96%	

r	=	Cost of capital	7.96%
d	=	Sinking fund depreciation rate $[(r) / ((1+r)^n - 1)]$	0.89%
n	=	Service life (years)	30
I	=	Insurance cost rate (\$945688/\$2826000404)	0.03% 2016 FERC 1 page 323, line 185 / page 200, line 13
Р	=	Property tax rate (\$8161539/\$2826000404)	0.29% 2016 FERC 1 page 263, line 9 / page 200, line 13
D	=	Book depreciation rate (30 year life - per EPRI "TAG")	3.33%
t	=	Income tax rate (composite)	25.6413%
b	=	Debt interest cost rate	4.81%
L	=	Debt capital structure ratio	43.56%

Carrying Charge

T = 1.40%

cc = 10.57% (r + d + I + P + T)

Southern Indiana Gas & Electric Company

Calculation of Cogeneration Rate For Purchase of Capacity Year 2018

С	=	Unadjusted monthly capacity payment per-kilowatt of contracted capacity year of completion of unit.	4.01	Unadjusted Capacity Rate
Ca	=	$C * (((1 + Ip)/(1 + r))^{\Lambda^{(Yi-Yc)}})$	3.88	Adjusted Capacity Rate
D	=	Present value of carrying charges for one dollar of investment over n years with carrying charges assumed to be paid at end of each year. (1+r)^(n-1)/r(1+r)^n	(cc)*	11.6365 = 1.2300
CC		(, (,,,(,	10.57%	
V	=	Investment amount in year of completion, including allowance for funds used during construction, of the avoidable or deferrable unit, stated on a per-kilowatt basis and including rated share of common costs.	732	2016 IRP inflated to 2021 level
n	=	Expected life of the avoidable or deferrable unit.	30	
i _p	=	Annual escalation rate associated with the avoidable or deferrable unit.	6.7%	From Handy Whitman
i _o	=	Annual escalation rate associated with the operation and maintenance expenses, less fuel and fuel-related expenses, of the avoidable or deferrable unit.	2.0%	From Producer Price Index
r	=	Purchasing utility's after tax cost of capital.	7.96%	
0	=	Expected total fixed and variable yearly operating and maintenance expenses, less fuel and fuel-related expenses, in expected first year of avoidable or deferrable unit's operation stated on a per-kilowatt basis	12.29	2016 IRP inflated to 2021 level
L	=	Line losses, expressed as a percentage, for the previous year. (286440/5910227)	4.85%	2016 FERC 1 Page 401a, line 27/ line 28
t	=	Contract term in years, with $t = 1$ to t .	1	
Yi Yc	=	In service date of the avoidable or deferrable unit Current Year	2021 2018	

	Esc	calated Capital Cost
Capability, MW (nominal)		219.8
Fixed O&M, \$/kW-yr		7.19
\$/уг		1,581,083
Variable O&M, \$/MWh	\$	3.88
MW (Technical Assessment)		219.8
hours in a year		8760
Capacity Factor (Assumption)		0.08
MWH (MW*Yearly Hours* CF)		154,035.84
Maintenance Cost per Start (TA)	\$	15,240.00
Starts (Assumption)		30
(Maintenance Cost per start*Starts)	\$	457,200.00
\$/MWH	\$	2.97
\$/MWH (Tech. Assessment Variable O&M)	\$	0.91
Total Variable O&M (\$/MWH)	\$	3.88
Total O&M, \$/kW		11.08

Capital Cost Estimate (2016 \$)

\$/kW

[1] Source: Generation Technology Assessment SCGT F- Class (September 2015)

1.020952

Inflation Factor of 1.020952 per EIA Annual Energy Outlook 2017 Early Release, Table A20

Total O & M \$/kW 2017 \$ 11.31 2018 \$ 11.55 2019 \$ 11.79 2020 \$ 12.04 2021 \$ 12.29 =0

 capital cost estimate
 2017
 674

 2018
 688

 2019
 702

 2020
 717

 2021
 732 = V

Southern Indiana Gas & Electric Company Compound Growth Rate of Handy-Whitman Cost Index for Gas Turbogenerators

Year	Year Index	Handy-Whitman Index	Annual Growth Rate	y = Year Index	x = LN (H-W Index)
2005	1	420		1	6.04025
2006	2	435	0.03571	2	6.07535
2007	3	511	0.17471	3	6.23637
2008	4	581	0.13699	4	6.36475
2009	5	619	0.06540	5	6.42811
2010	6	680	0.09855	6	6.52209
2011	7	683	0.00441	7	6.52649
2012	8	757	0.10835	8	6.62936
2013	9	797	0.05284	9	6.68085
2014	10	810	0.01631	10	6.69703
2015	11	847	0.04568	11	6.74170
2016	12	871	0.02834	12	6.76964
2017	13	912	0.04707	13	6.81564
L	.og-Linear Grow	vth			0.06459
C	Compound Grov	wth Rate (Exponential of	Log-Linear Gr	owth)	0.06672
	St	tated as percentage			6.7%

Southern Indiana Gas & Electric Company Compound Growth Rate of Producer Price Index

Year	Year Index	Producer Price Finished Goods Index	Annual Growth Rate	y = Year Index	x = LN (H-W Index)
2005	1	155.7		1	5.04793
2006	2	160.4	0.02987	2	5.07736
2007	3	166.6	0.03887	3	5.11550
2008	4	177.1	0.06313	4	5.17671
2009	5	172.5	(0.02579)	5	5.15059
2010	6	179.8	0.04197	6	5.19171
2011	7	190.7	0.06077	7	5.25070
2012	8	194.3	0.01892	8	5.26945
2013	9	196.7	0.01222	9	5.28159
2014	10	200.4	0.01911	10	5.30052
2015	11	193.9	(0.03280)	11	5.26717
2016	12	191.9	(0.01014)	12	5.25697
2017	13	198.0	0.03179	13	5.28827
Lo	og-Linear Gr	owth			0.02010
С	ompound Gr	owth Rate (Exponential of	Log-Linear G	rowth)	0.02030

Stated as percentage

IRP Model Inputs updated on 01/31/2018 All values shown in 2017 dollars

2018 CSP

		Data			
month		Average	of onpk	Average	of offpk
	Mar-18	\$	30.23	\$	25.33
	Apr-18	\$	30.12	\$	24.08
	May-18	\$	32.04	\$	23.20
	Jun-18	\$	32.76	\$	24.15
	Jul-18	\$	37.30	\$	24.36
,	Aug-18	\$	37.08	\$	24.87
	Sep-18	\$	31.48	\$	24.60
	Oct-18	\$	30.63	\$	24.25
	Nov-18	\$	31.20	\$	25.09
	Dec-18	\$	35.13	\$	26.91
	Jan-19	\$	34.91	\$	26.40
	Feb-19	\$	34.62	\$	26.37
12 month average		\$	33.12	\$	24.97

ferc 1 line losses Adjusted for losses

4.85%
1.02483

Adjusted Energy Rates	On peak \$/MWh 33.94528	Off-Peak \$/MWh 25.58766
\$ per kWh	\$ 0.03395 \$	0.02559

Source: Ryan Wilhelmus

Name	e of Respondent	This Report Is:	Date of Report	ear/Period of Report
South	nern Indiana Gas and Electric Company	(1) An Original (2) A Resubmission	(Mo, Da, Yr) Exhibit A_El 05/30/2017	ಗæge <u>1 200€/244</u>
		RY OF UTILITY PLANT AND ACCU REPRECIATION. AMORTIZATION		
	rt in Column (c) the amount for electric function, in (h) common function.	column (d) the amount for gas fund	ction, in column (e), (f), and (g) report	other (specify) and in
Line No.	Classification		Total Company for the Current Year/Quarter Ended	Electric (c)
1	Utility Plant		(b)	•
2	In Service			
3			2,646,367,174	2,302,465,767
	Property Under Capital Leases		2,010,001,111	2,002,100,707
	Plant Purchased or Sold			
6	Completed Construction not Classified		594,621,687	495,258,091
7	Experimental Plant Unclassified		35 1,52 1,551	.00,200,001
	Total (3 thru 7)		3,240,988,861	2,797,723,858
	Leased to Others		-, -,,	, - , -,
10	Held for Future Use		1,391,263	1,391,263
11	Construction Work in Progress		32,165,939	26,885,283
12	Acquisition Adjustments			
13	Total Utility Plant (8 thru 12)		3,274,546,063	2,826,000,404
14	Accum Prov for Depr, Amort, & Depl		1,482,972,597	1,318,161,282
15	Net Utility Plant (13 less 14)		1,791,573,466	1,507,839,122
16	Detail of Accum Prov for Depr, Amort & Depl			
17	In Service:			
18	Depreciation		1,482,972,597	1,318,161,282
19	Amort & Depl of Producing Nat Gas Land/Land R	light		
20	Amort of Underground Storage Land/Land Rights	3		
21	Amort of Other Utility Plant			
22	Total In Service (18 thru 21)		1,482,972,597	1,318,161,282
23	Leased to Others			
24	Depreciation			
	Amortization and Depletion			
26	Total Leased to Others (24 & 25)			
	Held for Future Use			
	Depreciation			
29	Amortization			
	Total Held for Future Use (28 & 29)			
	Abandonment of Leases (Natural Gas)			
	Amort of Plant Acquisition Adj			
33	Total Accum Prov (equals 14) (22,26,30,31,32)		1,482,972,597	1,318,161,282

Southern Indiana Gas and Electric Company (1) An Original (2) A Resubmission (5/30/2017 Exhibit Anage 18th (5/30/2017 Exhibit Anage 18th (2) A Resubmission (5/30/2017 Exhibit Anage 18th	
5. If any tax (exclude Federal and State income taxes)- covers more then one year, show the required information separately for each tax year the year in column (a). 6. Enter all adjustments of the accrued and prepaid tax accounts in column (f) and explain each adjustment in a foot- note. Designate debit ad by parentheses. 7. Do not include on this page entries with respect to deferred income taxes or taxes collected through payroll deductions or otherwise pending transmittal of such taxes to the taxing authority. 8. Report in columns (i) through (l) how the taxes were distributed. Report in column (l) only the amounts charged to Accounts 408.1 and 409. pertaining to electric operations. Report in column (l) the amounts charged to Accounts 408.1 and 109.1 pertaining to other utility departments amounts charged to Accounts 408.2 and 409.2. Also shown in column (l) the taxes charged to utility plant or other balance sheet accounts. 9. For any tax apportioned to more than one utility department or account, state in a footnote the basis (necessity) of apportioning such tax. BALANCE AT END OF YEAR DISTRIBUTION OF TAXES CHARGED (Taxes accrued Prepaid Taxes Electric Extraordinary Items Adjustments to Ret. Other	
the year in column (a). 6. Enter all adjustments of the accrued and prepaid tax accounts in column (f) and explain each adjustment in a foot- note. Designate debit ad by parentheses. 7. Do not include on this page entries with respect to deferred income taxes or taxes collected through payroll deductions or otherwise pending transmittal of such taxes to the taxing authority. 8. Report in columns (i) through (l) how the taxes were distributed. Report in column (l) only the amounts charged to Accounts 408.1 and 409. pertaining to electric operations. Report in column (l) the amounts charged to Accounts 408.1 and 109.1 pertaining to other utility departments amounts charged to Accounts 408.2 and 409.2. Also shown in column (l) the taxes charged to utility plant or other balance sheet accounts. 9. For any tax apportioned to more than one utility department or account, state in a footnote the basis (necessity) of apportioning such tax. BALANCE AT END OF YEAR DISTRIBUTION OF TAXES CHARGED (Taxes accrued Prepaid Taxes Electric Extraordinary Items Adjustments to Ret. Other	
7. Do not include on this page entries with respect to deferred income taxes or taxes collected through payroll deductions or otherwise pending transmittal of such taxes to the taxing authority. 8. Report in columns (i) through (l) how the taxes were distributed. Report in column (l) only the amounts charged to Accounts 408.1 and 409. pertaining to electric operations. Report in column (l) the amounts charged to Accounts 408.1 and 109.1 pertaining to other utility departments amounts charged to Accounts 408.2 and 409.2. Also shown in column (l) the taxes charged to utility plant or other balance sheet accounts. 9. For any tax apportioned to more than one utility department or account, state in a footnote the basis (necessity) of apportioning such tax. BALANCE AT END OF YEAR DISTRIBUTION OF TAXES CHARGED (Taxes accrued Prepaid Taxes Electric Extraordinary Items Adjustments to Ret. Other	, ,
8. Report in columns (i) through (l) how the taxes were distributed. Report in column (l) only the amounts charged to Accounts 408.1 and 409. pertaining to electric operations. Report in column (l) the amounts charged to Accounts 408.1 and 109.1 pertaining to other utility departments amounts charged to Accounts 408.2 and 409.2. Also shown in column (l) the taxes charged to utility plant or other balance sheet accounts. 9. For any tax apportioned to more than one utility department or account, state in a footnote the basis (necessity) of apportioning such tax. BALANCE AT END OF YEAR DISTRIBUTION OF TAXES CHARGED (Taxes accrued Prepaid Taxes Electric Extraordinary Items Adjustments to Ret. Other	9
pertaining to electric operations. Report in column (I) the amounts charged to Accounts 408.1 and 109.1 pertaining to other utility departments amounts charged to Accounts 408.2 and 409.2. Also shown in column (I) the taxes charged to utility plant or other balance sheet accounts. 9. For any tax apportioned to more than one utility department or account, state in a footnote the basis (necessity) of apportioning such tax. BALANCE AT END OF YEAR DISTRIBUTION OF TAXES CHARGED	.1
9. For any tax apportioned to more than one utility department or account, state in a footnote the basis (necessity) of apportioning such tax. BALANCE AT END OF YEAR DISTRIBUTION OF TAXES CHARGED (Taxes accrued Prepaid Taxes Electric Extraordinary Items Adjustments to Ret. Other	
BALANCE AT END OF YEAR DISTRIBUTION OF TAXES CHARGED (Taxes accrued Prepaid Taxes Electric Extraordinary Items Adjustments to Ret. Other	
(Taxes accrued Prepaid Taxes Electric Extraordinary Items Adjustments to Ret. Other	
	Line
Account 230) (moi. 117/1000 and 100) (1/1000 and 100)	No.
(i) (i) (k) (l)	
	1
185,599 7,920,353 1,19	8,434 2
174,903	3,136 4
	7,479 5
101,000	941 6
	7
1,172	1,771 8
9,813,067 8,161,539 1,45	9,788 9
	10
10,579,296 23,901,928 3,03	3,049 11
	12
4,501 20,735 -	1,261 14
805,551 561,858	1,201 14
301,030	16
810,052 582,593 -	1,261 17
	18
	19
	3,498 20
	2,404 21
178,752	36 22
-1 201 -4,546 29,983,215 -4,80	35 23 8,835 24
-4,040 25,565,215 -4,60	25
	26
	27
	28
	29
	30
	31
	32
	34
	35
	36
	37
	38
	39
	40
11,384,802 54,467,736 -1,777	7,047 41

of Respondent rn Indiana Gas and Electric Company	This Report Is: (1) An Original (2) A Resubmission	(Mo, Da, Yr) Exhibit As d	ar/Period of Report Rage 1901/05/02/4
ELECTRIC			
• •	n previously reported figures, ex	<u> </u>	
		Amount for Current Year	Amount for Previous Year
	LEVENCES	(b)	(c)
	L EXPENSES		
907) Supervision			
908) Customer Assistance Expenses		120,333	107,553
009) Informational and Instructional Expenses		16,942	15,073
,		479,651	200,123
·	ses (Total 167 thru 170)	616,926	322,749
011) Supervision		12,543	12,685
912) Demonstrating and Selling Expenses		10,417,949	8,277,068
913) Advertising Expenses			
-,		13,546	3,913
		10,444,038	8,293,666
	5		
		15,258,317	13,774,963
921) Office Supplies and Expenses		4,944,879	4,967,264
ess) (922) Administrative Expenses Transferred	l-Credit	2,340,800	2,396,160
923) Outside Services Employed		13,125,733	12,966,825
, , ,		945,688	916,599
· · · · · · · · · · · · · · · · · · ·			1,431,286
		24,545	12,950
·		1.021.493	1,102,376
929) (Less) Duplicate Charges-Cr.		.,021,100	1,102,010
030.1) General Advertising Expenses			
330.2) Miscellaneous General Expenses		4,225,027	3,700,629
931) Rents		37,064	28,089
	93)	38,549,465	36,504,821
		289 064	231,473
,	of lines 194 and 196)		36,736,294
	,	345,398,428	342,919,667
	ELECTRIC mount for previous year is not derived from Account (a) CUSTOMER SERVICE AND INFORMATIONA peration 07) Supervision 08) Customer Assistance Expenses 09) Informational and Instructional Expenses 10) Miscellaneous Customer Service and Information Expenses 10) Miscellaneous Customer Service and Information Expenses 11) Supervision 12) Demonstrating and Selling Expenses 13) Advertising Expenses 16) Miscellaneous Sales Expenses 07AL Sales Expenses (Enter Total of lines 174 ADMINISTRATIVE AND GENERAL EXPENSE peration 20) Administrative and General Salaries 21) Office Supplies and Expenses ess) (922) Administrative Expenses Transferred 23) Outside Services Employed 24) Property Insurance 25) Injuries and Damages 26) Employee Pensions and Benefits 27) Franchise Requirements 28) Regulatory Commission Expenses 29) (Less) Duplicate Charges-Cr. 30.1) General Advertising Expenses 30.2) Miscellaneous General Expenses 31) Rents 0TAL Operation (Enter Total of lines 181 thru 1 aintenance 35) Maintenance of General Plant 0TAL Administrative & General Expenses (Total	In Indiana Gas and Electric Company ELECTRIC OPERATION AND MAINTENANCE mount for previous year is not derived from previously reported figures, ex Account (a) CUSTOMER SERVICE AND INFORMATIONAL EXPENSES Deration O7) Supervision 08) Customer Assistance Expenses 10) Miscellaneous Customer Service and Informational Expenses TOAL Customer Service and Information Expenses (Total 167 thru 170) SALES EXPENSES Deration 11) Supervision 12) Demonstrating and Selling Expenses 13) Advertising Expenses OTAL Sales Expenses (Enter Total of lines 174 thru 177) ADMINISTRATIVE AND GENERAL EXPENSES Deration 20) Administrative and General Salaries 21) Office Supplies and Expenses ess) (922) Administrative Expenses Transferred-Credit 23) Outside Services Employed 24) Property Insurance 25) Injuries and Damages 26) Employee Pensions and Benefits 27) Franchise Requirements 28) Regulatory Commission Expenses 29) (Less) Duplicate Charges-Cr. 30.1) General Advertising Expenses 31) Rents DTAL Operation (Enter Total of lines 181 thru 193) aintenance	In Indiana Gas and Electric Company

	e of Respondent	This Report Is: (1) An Origina				rear/Period of Report	
Sout	hern Indiana Gas and Electric Company	(2) X A Resubm	ission		05/30/2017	nBage 2016624	
		ELECTRIC EN	NERG'	Y ACCOUN	T		
Re	port below the information called for concerning	ng the disposition of electri	ic ene	rgy generate	ed, purchased, exchanged and w	heeled during the year.	
Line	Item	MegaWatt Hours	Line		Item	MegaWatt Hours	
No.	(a)	(b)	No.		(a)	(b)	
1	SOURCES OF ENERGY		21	DISPOSITI	ON OF ENERGY		
2	Generation (Excluding Station Use):		22	Sales to Ul	timate Consumers (Including	5,474,206	
3	Steam	4,090,807		Interdepart	mental Sales)		
4	Nuclear		23	Requireme	nts Sales for Resale (See		
5	Hydro-Conventional			instruction -	4, page 311.)		
6	Hydro-Pumped Storage		24	Non-Requi	rements Sales for Resale (See	136,053	
7	Other	47,048			4, page 311.)		
8	Less Energy for Pumping				nished Without Charge		
9	Net Generation (Enter Total of lines 3	4,137,855	26		ed by the Company (Electric	13,528	
	through 8)				Excluding Station Use)		
10	Purchases	1,672,511		Total Energ		286,440	
11	Power Exchanges:		28		nter Total of Lines 22 Through	5,910,227	
12	Received	5,338,360		27) (MUST	EQUAL LINE 20)		
13	Delivered	5,238,499					
14	Net Exchanges (Line 12 minus line 13)	99,861					
15	Transmission For Other (Wheeling)						
16	Received						
17	Delivered						
	Net Transmission for Other (Line 16 minus line 17)						
19	Transmission By Others Losses						
	TOTAL (Enter Total of lines 9, 10, 14, 18 and 19)	5,910,227					

PPI Commodity Data Original Data Value

Series Id: WPUFD49207

Not Seasonally Adjusted

Series Title: PPI Commodity data for Final demand-Finished

Group: Final demand **Item:** Finished goods

Base Date: 198200 **Years:** 2007 to 2017

	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2007		160.1	161.8	164.1	165.9	167.5	167.2	168.5	166.1	167.4	168.6	171.4	170.4	166.6
2008		172.0	172.3	175.1	176.5	179.8	182.4	185.1	182.2	182.2	177.4	172.0	168.8	177.1
2009		170.4	169.9	169.1	170.3	171.1	174.3	172.4	174.2	173.2	173.8	175.7	176.0	172.5
2010		178.0	176.9	179.1	179.5	179.9	179.0	179.5	180.0	180.0	181.2	181.6	182.6	179.8
2011		184.5	186.7	189.3	191.6	192.7	191.6	192.4	191.8	192.8	191.9	191.9	191.2	190.7
2012		192.1	193.0	194.5	195.0	193.8	192.9	193.3	195.5	196.9	196.4	194.5	193.8	194.3
2013		194.9	196.4	196.7	196.0	196.9	197.3	197.3	197.9	197.3	196.9	196.1	196.5	196.7
2014		198.1	198.9	200.3	202.1	201.8	202.9	203.0	202.5	201.7	200.4	198.2	195.4	200.4
2015		192.2	192.6	193.6	193.1	196.0	197.7	197.4	196.3	193.4	192.4	191.6	190.1	193.9
2016		189.9	188.8	189.2	190.3	191.7	193.8	193.5	192.6	193.2	193.7	192.4	193.7	191.9
2017		195.4	196.0	196.3	198.0	197.0	197.8	197.6	198.4	199.6	199.3	200.6	200.1	198.0

20. Macroeconomic Indicators

(billion 2009 chain-weighted dollars, unless otherwise noted)

Indicators	2015	2016	2017	2018	2019	2020	2021	2022	2023	205
Real Gross Domestic Product	16,397	16,652	17,114	17,499	17,817	18,236	18,734	19,221	19,650	2.19
Components of Real Gross Domestic Product	11,215	11,522	11,837	12 124	12,391	12,673	13,019	13,380	13,707	2.29
Real Consumption Real Investment	2,869	2,816	2,986	12,124 3,164	3,221	3,343	3,488	3,610	3,693	2.69
Real Government Spending	2,884	2,919	2,945	2,949	2,950	2,953	2,957	2,974	2,995	0.99
Real Exports	2,121	2,114	2,204	2,268	2,351	2,489	2,657	2,809	2,946	3.99
Real Imports	2,661	2,692	2,831	2,983	3,075	3,197	3,362	3,527	3,665	3.79
Energy Intensity										
(thousand Btu per 2009 dollar of GDP)										
Delivered Energy	4.36	4.30	4.23	4.20	4.16	4.07	3.97	3.89	3.81	-1.79
Total Energy	5.91	5.79	5.69	5.63	5.58	5.47	5.34	5.22	5.12	-1.89
Price Indices (inflated at 1.020952%)		1.13896	1.16353	1.18644	1.21144	1.23837	1.26531	1.29374	1.32187	
GDP Chain-type Price Index (2009=1.000)	1.100	1.116	1.140	1.162	1.187	1.213	1.239	1.267	1.295	2.0959
Consumer Price Index (1982-84=1.00)										
All-urban	2.37	2.40	2.46	2.51	2.58	2.65	2.71	2.79	2.86	2.49
Energy Commodities and Services	2.03	1.87	2.00	2.06	2.21	2.33	2.44	2.57	2.66	3.29
Wholesale Price Index (1982=1.00)										
All Commodities	1.90	1.85	1.91	1.96	2.02	2.08	2.13	2.18	2.22	1.99
Fuel and Power	1.60	1.44	1.58	1.69	1.84	1.97	2.04	2.13	2.20	3.59
Metals and Metal Products	2.00	1.93	2.00	2.07	2.10	2.15	2.19	2.22	2.24	0.99
Industrial Commodities excluding Energy	1.94	1.93	1.97	2.00	2.04	2.08	2.12	2.16	2.20	1.49
Interest Rates (percent, nominal)										
Federal Funds Rate	0.13	0.42	0.98	1.76	2.59	2.95	3.04	3.09	3.08	_
10-Year Treasury Note	2.14	1.73	2.28	2.88	3.48	3.75	3.81	3.83	3.81	
AA Utility Bond Rate	3.99	3.65	4.42	5.12	5.43	5.71	5.75	5.78	5.78	-
Value of Shipments (billion 2009 dollars)										
Non-Industrial and Service Sectors	23,925	24,364	25,104	25,693	26,186	26,695	27,321	28,083	28,764	2.09
Total Industrial	7,374	7,453	7,880	8,058	8,187	8,345	8,541	8,726	8,896	1.89
Agriculture, Mining, and Construction	2,049	2,079	2,208	2,288	2,328	2,359	2,401	2,446	2,488	1.59
Manufacturing	5,325	5,374	5,672	5,770	5,859	5,986	6,140	6,280	6,408	2.09
Energy-Intensive	1,867	1,898	2,002	2,036	2,068	2,094	2,128	2,163	2,193	1.29
Non-Energy-Intensive	3,458	3,476	3,670	3,733	3,791	3,892	4,012	4,117	4,215	2.39
Total Shipments	31,298	31,817	32,984	33,750	34,373	35,041	35,862	36,808	37,660	2.09
Population and Employment (millions)										
Population, with Armed Forces Overseas	322.0	324.5	327.1	329.8	332.4	335.0	337.6	340.2	342.8	0.69
Population, aged 16 and over	256.7	259.3	261.9	264.3	266.8	269.3	271.7	274.1	276.6	0.79
Population, aged 65 and over	48.0	49.6	51.3	53.0	54.8	56.7	58.5	60.5	62.4	1.79
Employment, Nonfarm	141.6	144.3	146.3	147.6	148.5	149.7	151.3	153.5	155.3	0.79
Employment, Manufacturing	12.1	12.1	12.7	13.0	13.2	13.3	13.4	13.5	13.6	0.09
Key Labor Indicators										
Labor Force (millions)	157.1	159.2	161.2	163.1	164.7	166.0	167.0	168.1	169.3	0.69
Nonfarm Labor Productivity (2009=1.00)	1.06	1.06	1.08	1.09	1.11	1.13	1.15	1.17	1.18	1.79
Unemployment Rate (percent)	5.28	4.88	4.69	4.68	4.87	4.98	4.97	4.77	4.63	
Key Indicators for Energy Demand	42.242	12 662	12.020	12 414	12 752	1/1/12	14 514	14.017	15 205	2.20
Dool Disposable Descond Inc	12,343	12,663	13,020	13,414	13,752	14,112	14,514	14,917	15,295	2.29
Real Disposable Personal Income						1 72		1 02	1 05	1 00
Real Disposable Personal Income Housing Starts (millions) Commercial Floorspace (billion square feet)	1.18	1.26 89.7	1.48	1.63 91.7	1.67 92.8	1.72 93.9	1.77 95.0	1.82 96.1	1.85 97.2	1.09

GDP = Gross domestic product.

 $Projections: \ U.S.\ Energy\ Information\ Administration,\ AEO 2017\ National\ Energy\ Modeling\ System\ run\ ref 2017. d 120816a.$

Btu = British thermal unit.

^{- - =} Not applicable

Sources: 2015 and 2016: IHS Markit, Macroeconomic, Industry, and Employment models, August 2016.

LEGAL NOTICE

Notice is hereby given that on or about February 28, 2018, Southern Indiana Gas and Electric Company d/b/a Vectren Energy Delivery of Indiana, Inc. ("Vectren South") will file a request with the Indiana Utility Regulatory Commission for approval to update its Rate CSP – Cogeneration and Small Power Production, to establish prices for the purchase of energy and capacity from owners of a qualifying facility, as defined by the Commission. The capacity component of Rate CSP will also impact the capacity charge for firm backup power under Rate BAMP (Backup, Auxiliary and Maintenance Power Services), as well as capacity credits to be paid to customers under Rider IC (Interruptible Contract Rider), Rider IO (Interruptible Option Rider), and Rider IP-2 (Interruptible Power Service Rider), as applicable.

Vectren South anticipates approval of the filing by June 1, 2018, but no sooner than 30 days after receipt of the filing by the Commission. Objections to the filing should be made in writing addressed to:

Mary M. Becerra Secretary to the Commission Indiana Utility Regulatory Commission PNC Center 101 W. Washington Street, Suite 1500 East Indianapolis, Indiana 46204 William Fine Indiana Utility Consumer Counselor Indiana Office of Utility Consumer Counselor PNC Center 115 W. Washington St., Suite 1500 South Indianapolis, Indiana 46204

Scott E. Albertson Vice President, Regulatory Affairs & Gas Supply VECTREN UTILITY HOLDINGS, INC. COURIERPRESS.COM I TUESDAY, FEBRUARY 27, 2018 I 3A

LEGAL NOTICE

Notice is hereby given that on or about February 28, 2018, Southern Indiana Gas and Electric Company d/b/a Vectren Energy Delivery of Indiana, Inc. ("Vectren South") will file a request with the Indiana Utility Regulatory Commission for approval to update its Rate CSP - Cogeneration and Small Power Production, to establish prices for the purchase of energy and capacity from owners of a qualifying facility, as defined by the Commission. The capacity component of Rate CSP will also impact the capacity charge for firm backup power under Rate BAMP (Backup, Auxiliary and Maintenance Power Services), as well as capacity credits to be paid to customers under Rider (Interruptible Contract Rider), Rider IO (Interruptible Option Rider), and Rider IP-2 (Interruptible Power Service Rider), as applicable.

Vectren South anticipates approval of the filing by June 1, 2018, but no sooner than 30 days after receipt of the filing by the Commission. Objections to the filing should be made in writing addressed to:

Mary M. Becerra

Secretary to the Commission Indiana Utility Regulatory Commission PNC Center 101 W. Washington Street, Suite 1500 East Indianapolis, Indiana 46204

William Fine

Indiana Utility Consumer Counselor Indiana Office of Utility Consumer Counselor PNC Center 115 W. Washington St., Suite 1500 South Indianapolis, Indiana 46204

Scott E. Albertson

Vice President, Regulatory Affairs & Gas Supply VECTREN UTILITY HOLDINGS, INC.

EC-1938281

Sheet No. 79 Original Page 1 of 4

RATE CSP COGENERATION AND SMALL POWER PRODUCTION

APPLICABILITY

The schedule of purchase prices set forth herein shall apply to owners of cogeneration or small power producing "qualifying facilities' as defined by the Commission, in Cause No. 37494, approved December 6, 1984. Prior to any purchase by Company, the qualifying facility must enter into a contractual agreement.

RATES FOR SALE OF ENERGY AND CAPACITY

If the qualifying facility desires to purchase electric service from Company, the electric requirements for the qualifying facility shall be separately metered and billed in accordance with the applicable Rate Schedule.

PURCHASE PRICES

Company will pay for energy and capacity received from the qualifying facility on a monthly basis as follows:

Energy Component:

Prices paid are based on Company's avoided cost of energy associated with a one (1) megawatt decrement of load. The energy payment is expressed on a cents-per-kWh basis in Table 1 of this schedule.

Payments for energy are adjusted to reflect line losses, expressed as a percentage for the previous year. It is expected that the projected energy payment will vary as Company's actual fuel costs change. Energy rates listed in Table 1 will be revised on or before February 28th in each subsequent year in accordance with the Commission Cause No. 37494.

In the case of contracts for purchases of 72,000 Kilowatt-hours or more per month from a qualifying facility, the following factors may be considered and an appropriate adjustment made to the agreed purchase price in each contract:

- 1. The extent to which scheduled outages of the qualifying facility can be usefully coordinated with scheduled outages of Company's generation facilities.
- 2. The relationship of the availability of energy from the qualifying facility to the ability of Company to avoid costs, particularly as is evidenced by Company's ability to dispatch the qualifying facility.
- 3. The availability of energy from a qualifying facility during Company's system daily or seasonal peak.
- 4. The usefulness of energy from a qualifying facility during Company system emergencies, including its ability to separate its load from its generation.

Effective: May 3, 2011

Sheet No. 79
Sixth Revised Page 2 of 4
Cancels Fifth Revised Page 2 of 4

RATE CSP COGENERATION AND SMALL POWER PRODUCTION

(Continued)

Capacity Component

There shall be demand credit paid to qualifying facilities who can enter into a contract with Company to provide firm capacity for specified term. Capacity payments are expressed on a dollars per Kilowatt per month basis in Table 1 of this schedule.

The monthly capacity payment shall be adjusted by the following factor:

$$F = \underline{Ep}$$
 (K) (Tp)

Where:

F = Capacity payment adjustment factor

Ep = Kilowatt-hours delivered to Company by the qualifying facility during the peak period defined as the hours of 6:00 A.M. to 10:00 P.M. during weekdays, excluding holidays.

K = Kilowatts of capacity the qualifying facility contracts to provide.

Tp = Number of hours in the peak period.

Company and a qualifying facility may negotiate a rate for energy or capacity which differs from the filed Rate CSP.

Table 1

ENERGY PAYMENT TO A QUALIFYING FACILITY (1)

Annual On-Peak = \$0.03321/kWh Annual Off-Peak = \$0.02328/kWh

CAPACITY PAYMENT TO A QUALIFYING FACILITY

\$4.09 per kW Per Month

On-Peak hours = 6:00 A.M.– 10:00 P.M.weekdays
Off-Peak hours = All other hours, including weekends and designated holidays

Effective: April 6, 2017

Sheet No. 79 Original Page 3 of 4

RATE CSP COGENERATION AND SMALL POWER PRODUCTION

(Continued)

CONDITIONS OF PURCHASE

- A qualifying facility, operating electric generating equipment, may connect in parallel with Company's system, providing the facility complies with the National Electrical Safety Code, as supplemented, the applicable requirements of 170 IAC 4-4.3, and the Company's rules and regulations for electric service. The Customer will provide, at Customer's expense, all necessary protective and synchronizing equipment.
- 2. The qualifying facility shall pay in advance of construction all costs estimated by Company for metering or other facilities necessary to provide for the energy purchase. Upon completion of the construction, Company will reconcile the actual costs with the advance payment and bill or credit the facility accordingly.
- 3. The qualifying facility shall operate its electric generating equipment in such a manner so as not to adversely affect Company's voltage waveform.
- 4. The qualifying facility shall permit Company at any time as it deems necessary to install or modify any equipment to protect the safety of its employees or the accuracy of its metering equipment as a result of the operation of the facility's equipment. The facility shall reimburse Company for the cost of such installation or modification upon receipt of a statement from Company.
- 5. The qualifying facility shall permit Company's employees to enter upon its property at any reasonable time for the purpose of inspecting and/or testing its facilities to ensure their continued safe operation and the accuracy of Company's metering equipment, but such inspections shall not relieve the qualifying facility from its obligation to maintain the facilities in satisfactory operating condition.
- The qualifying facility shall agree to indemnify Company and its employees against liability for any injuries or damages caused by the operation of the facility's equipment or by any failure of the facility to maintain its equipment in satisfactory and/or safe operating condition.
- 7. Company will require that a contract be executed which will detail meter reading and billing practices to be followed, as well as other technical and operating parameters for the qualifying facility's generation facilities.

Effective: May 3, 2011

Sheet No. 79 Original Page 4 of 4

RATE CSP COGENERATION AND SMALL POWER PRODUCTION

(Continued)

- 8. Qualifying facilities wishing to operate electric generating equipment in parallel with Company system and not sell electricity to Company shall abide by these Conditions of Purchase, including allowing Company to prevent the existing Company metering facilities from recording any flow of energy from the facility's generation into Company's system.
- 9. Company need not purchase or sell at the time of a system emergency.
- 10. The determination of whether or not a facility qualifies, as well as other terms and conditions of purchase and sale, shall be subject to and in accordance with the Commission's order approved December 6, 1984, in Cause No. 37494.
- 11. Company's standard terms and conditions shall apply to the purchase and sale of surplus energy and capacity, unless specifically superseded by the terms and conditions presented herein.

Effective: May 3, 2011